Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Revision of the Commission's Rules	)	CC Docket No. 94-102
To Ensure Compatibility with	)	
Enhanced 911 Emergency Calling Systems	)	
	)	

CT Cube, Inc. d/b/a West Central Wireless Petition for Limited Waiver of Sections 20.18(e) and (g) of the Commission's Rules

CT Cube, Inc. d/b/a West Central Wireless ("CT Cube"), by its attorneys and pursuant to Sections 1.3 and 1.925 of the Rules and Regulations of the Federal Communications Commission ("FCC" or "Commission"),[1] hereby requests a limited and temporary waiver of Sections 20.18(e) and (g) of the Commission's rules.[2] CT Cube is fully committed to providing E911 location capability to meet the emergency needs of its customers and continues to devote substantial resources and personnel to its pursuit of Phase II E911 ("Phase II") compliance. However, deployment of Phase II capability has been particularly difficult for CT Cube due to obstacles it has faced in its attempts to obtain the Phase II handset, cell site, network signaling, switching and location equipment, and software upgrades necessary to make Phase II a reality prior to the Commission's October 1, 2001 deadline. Specifically, vendor delays in the availability of Phase II compliant network solutions and Phase II capable handsets have made compliance with Section 20.18(g)(1)(i) impossible to date, and make such compliance by October 2001 in most of CT Cube's service area improbable if not unattainable. Without the

[1] 47 C.F.R. §§ 1.3 and 1.925.
[2] 47 C.F.R. §§ 20.18(e) and (g).

general availability of Phase II equipment, CT Cube will be unable to meet the October 1, 2001 deadline in most of its service area and respectfully requests an extension as outlined below.[3]

I. CT Cube Is Unable to Meet the FCC's October 1 Handset Availability Deadline Due to Factors Outside of Its Control

CT Cube is a small cellular carrier providing service in rural Texas (San Angelo, Texas Metropolitan Statistical Area 294). CT Cube has been working diligently with its main supplier, Nortel, to develop a Phase II solution for its service area. As CT Cube reported in its November 9, 2000 report, CT Cube has been exploring a hybrid solution for its TDMA operation to be provided by Nortel. The technology uses both cell sector identification and Global Positioning System ("GPS") technology. The location technology also uses a locating function within or as an overlay to the wireless network infrastructure using a combination of Time Difference of Arrival ("TDOA") and Angle of Arrival ("AOA") functions. CT Cube's Phase II solution will require a new software load in its switch, hardware changes consisting of a new processor for its switch and assorted cell site upgrades, as well as automatic location information ("ALI")-capable handsets. As discussed in detail below, vendor-associated delays in delivery of each of these elements will prevent CT Cube from meeting its relevant Phase II deadlines in the vast majority of its service area.

CT Cube will order an upgrade to its software in the form of the Nortel MTX10 feature addition when it is available[4] and will add location center hardware in order to transmit Phase II

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[3] CT Cube plans to use a network-based solution in the few areas of its rural network where cell site density might make a network-based solution technically possible. In such areas, CT Cube does not anticipate that a waiver will be necessary. CT Cube notes that it has yet to receive, nor does it expect to receive in the near future, a Phase II request from the Public Safety Answering Points ("PSAP") that it serves.

[4] At this time, Nortel is not accepting orders for the MTX10 upgrade.

data to PSAPs.[5] According to its latest timeline,[6] Nortel promises that the MTX10 upgrade will be made commercially available in December 2001. However, Nortel has yet to provide CT Cube with a delivery date. Based on past experience, CT Cube expects a three to four month delay to allow for delivery and testing. Accordingly, absent unexpected advances in Nortel's schedule, CT Cube does not anticipate having the ability to process Phase II data until March 2002 at the earliest.

CT Cube has investigated the potential product offerings of many different Phase II vendors in addition to Nortel, including those offered by Tendler, SCC Communications, Technocom Corporation, GTE Telecommunications Services, Cell-Loc, True Position, US Wireless, and SigmaOne Communications Corporation. CT Cube has selected Nortel based on its network's compatibility with Nortel products and because the Nortel product appears to be the most robust solution available at the earliest date.

To meet the Commission's ALI requirements, CT Cube also requires an upgrade to its hardware infrastructure in the form of its Nortel processor. Based on CT Cube's previous experiences, delays in the delivery of hardware can last up to nine months after such hardware first becomes available.[7] Additionally, several wireless carriers have reported in their Phase II waiver petitions that Nortel, CT Cube's switch and network equipment vendor, will not have the

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[5] In general, the following hardware and software is needed to transmit Phase II data to PSAPs: IS41C – Dialed Number Trigger, E911 Software, MPC – Mobile Positioning Center, PDE – Position Determining Entity, and receivers at each cell site.

[6] *See* CMS of St. Cloud Petition for Waiver at 3.

[7] CT Cube's experiences are consistent with those of other carriers. *See, e.g.*, Inland Cellular Petition for Waiver at 6 (small carriers can expect to see generally available technology six to nine months after vendors deliver ALI-capable technology to the large, nationwide carriers). As Inland Cellular pointed out in its waiver petition, small carriers face "unique difficulties and obstacles" when attempting to contact national vendors. Inland Cellular Petition for Waiver at 1.

necessary upgrades ready until the end of Q1 2002 or the beginning of Q2 2002.[8] After successful installation of the necessary equipment, CT Cube will have to test all of the upgrades – a process that generally takes six to eight weeks.[9] With the unsated demand for Phase II technology building and the large nationwide carriers competing for equipment, CT Cube does not realistically expect delivery of the necessary Phase II hardware until at least nine months after the products first appear on the market.[10] In fact, even large carriers are reporting six-month lags between the availability of equipment and delivery, installation, and testing.[11]

While CT Cube will be unable to process Phase II data without the Nortel upgrade, it is the unavailability of ALI-capable handsets that is likely to cause the most serious delays to CT Cube's Phase II compliance plans. CT Cube plans to integrate the Nortel network upgrades with ALI-capable handsets. Unfortunately, as discussed below, CT Cube's Phase II upgrade efforts have been stymied by a general lack of availability of ALI-capable handsets.

As a small carrier without substantial market clout with vendors, CT Cube is forced, in many cases, to base its handset plans on second-hand information on product delivery dates and details of what products will be available for purchase. Even Western Wireless, a huge rural carrier in comparison with CT Cube, notes that it "does not have the clout to dictate the production of new handsets with [ALI] capability."[12] This process makes it difficult for CT Cube to accurately predict the date when it can begin selling ALI-capable handsets to its customers. Notwithstanding the lack of vendor-supplied information regarding handset availability dates, information provided by large carriers in their waiver requests suggests that

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[8] *See, e.g.*, Qwest Petition for Waiver at 16.
[9] *Id.*
[10] *See, e.g.*, Inland Cellular Petition for Waiver at 6.
[11] *See, e.g.*, Cingular Petition for Waiver at 27.
[12] *See* Western Wireless Petition for Waiver at 12.

the earliest date by which ALI-capable handsets will be commercially available is December 1, 2001.[13] The December 2001 date is consistent with information that CT Cube has obtained from vendors and record sources. Nokia has noted that it has no plans to develop an ALI-capable handset for TDMA networks. CT Cube has contacted Motorola, and has yet to receive a response. CT Cube continues to pursue contacts with other handset makers such as Kyocera. As Cingular documented in its waiver request, many major handset vendors such as Nokia, Motorola, and Panasonic have abandoned TDMA development efforts.[14] Like many ALI technology vendors, Tendler has noted that it would be delighted to sell its ALI technology if it were readily available. Unfortunately, not only is the Tendler handset solution unavailable at this time, but large carriers are placing orders, pushing small carriers such as CT Cube to the back of the line. Even if Tendler were able to commit to a general availability date for its equipment, the economic incentive for Tendler to fill 500,000 Verizon orders rather than a few thousand for CT Cube will most certainly lead to additional delays beyond any such date. CT Cube, based on its experiences and confirmed by other small carriers,[15] expects a six to nine month delay after vendors first deliver ALI-capable handset technology to the large, nationwide carriers before such equipment is made available to CT Cube.

CT Cube is aware of only one TDMA handset solution that may be commercially available. According to Airbiquity's testimony to Congress, its ALI product is commercially available. CT Cube has investigated the Airbiquity solution, and has ruled it out based on technical incompatibility. The Airbiquity product appears to be capable of working only with certain model Nokia products. Since Nokia has abandoned TDMA networks and CT Cube must

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[13] *See* Verizon Wireless Petition for Waiver at 14 (December 2001); *see also* U.S. Cellular Corporation Petition for Waiver at 13 (4th Quarter 2001).
[14] Cingular Petition for Waiver at 20.
[15] *See, e.g.*, Inland Cellular Petition for Waiver at 6.

find handset vendors with ALI-capable TDMA products, Airbiquity is not a practical solution to CT Cube's Phase II handset obligations.

CT Cube, like many carriers that serve rural areas, has ruled out a purely network-based Phase II solution.[16] CT Cube's investigation of network-based solutions has confirmed that triangulation-based location solutions do not work well in less densely populated rural areas, where cell sites are scarce. In fact, the Commission has confirmed the "distinct challenges" that rural carriers such as CT Cube face in implementing Phase II requirements.[17] CT Cube will use TDOA and AOA where it can,[18] but must rely heavily on ALI-capable handsets to meet the FCC's Phase II accuracy standards. In the CT Cube network, an E911 caller is not always within the range of multiple cells. In addition, many of CT Cube's cell sites are spaced in straight lines (by roadways, for example), making triangulation a geometric impossibility.[19] CT Cube will continue to work with Nortel on its hybrid solution, but cannot achieve full Phase II compliance in the majority of its service area without ALI-capable handsets.

II. CT Cube Satisfies the Relevant Standards for Waiver of the Commission's Rules

Under Section 1.3 of its rules, the Commission may waive any provision of its rules if good cause is shown.[20] The Commission must take a "hard look"[21] and then decide if such a

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[16] *See, e.g.*, AT&T Petition for Waiver at 33.
[17] *See, e.g., Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, CC Docket No. 94-102, Fifth Memorandum Opinion and Order, 15 FCC Rcd. 22810, ¶ 21 (2000) ("*Fifth MO&O*").
[18] As discussed above, CT CUBE hopes to use a network-based solution where cell site density in CT Cube's rural network makes TDOA and AOA possible.
[19] *See, e.g., Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, CC Docket No. 94-102, Third Report and Order, 14 FCC Rcd. 17388, ¶ 23 (1999) ("*Third R&O*").
[20] 47 C.F.R. § 1.3.
[21] *Wait Radio v. FCC,* 418 F.2d 1153, 1157 (D.C. Cir. 1969).

waiver is in the public interest.[22] The Commission has already recognized that wireless carriers may face difficulties in meeting the October 1, 2001 deadline to comply with Sections 20.18 (e) and (g) of its rules. In the FCC's *Fourth Memorandum Opinion and Order* ("*Fourth MO&O*"),[23] the Commission recognized that there would be instances when "technology-related issues" or "exceptional circumstances" would cause a delay in a wireless carrier's ability to meet the October 1, 2001 deadline to become Phase II compliant.[24] Such recognition is consistent with the Commission's acknowledgement that "bringing a new product to market requires manufacturers to undertake a time-consuming series of complex steps."[25] Manufacturers, although racing to meet carrier demand, have yet to overcome the technological complexities in order to make ALI-capable handsets available in time for carriers to meet the FCC's deadlines. The requested waiver is consistent with the Commission's recognition that compliance deadlines should be linked to the availability of manufacturer equipment.[26]

The Commission also indicated that a petition for waiver must be "specific, focused and limited in scope, and with a path to full compliance."[27] CT Cube's waiver petition is specific, narrow in scope, and provides the Commission with CT Cube's efforts and future plans to satisfy the FCC's Phase II requirements. Moreover, as set forth below, the instant petition satisfies the applicable waiver standards.

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[22] *Northeast Cellular Telephone Company, L.P., et al v. FCC,* 897 F.2d 1164, 1166 (D.C. Cir. 1990).

[23] *Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, CC Docket No. 94-102, *Fourth Memorandum Opinion and Order*, 15 FCC Rcd. 17442 (2000) ("*Fourth MO&O*").

[24] *Id.* at ¶ 43.

[25] GARMIN International, Inc., *Order on Reconsideration*, DA 01-851 at ¶ 5.

[26] *See, e.g., Implementation of Section 17 of the Cable Television Consumer Protection and Competition Act of 1992; Compatibility Between Cable Systems and Consumer Electronics Equipment*, 9 FCC Rcd. 1981 ¶¶ 76-77 (1994) (modifying a proposed compliance deadline to account for the unavailability of necessary equipment).

[27] *Fourth MO&O* at ¶ 44.

Section 1.925(b)(3) of the Commission's rules sets out the general standards for determining when a waiver should be granted in Wireless Telecommunications Bureau proceedings:

> The Commission may grant a request for waiver if it is shown that:
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> (i) The underlying purpose of the rule(s) would not be served or would be frustrated by application to the instant case, and that a grant of the requested waiver would be in the public interest; or
>
> (ii) In view of unique or unusual factual circumstances of the instant case, application of the rule(s) would be inequitable, unduly burdensome or contrary to the public interest, or the applicant has no reasonable alternative.[28]

Under both of these standards, grant of the requested waiver is warranted. Application of the Section 20.18(g) handset deadline to CT Cube would be inequitable in light of the lack of availability of ALI-capable handsets, a factor outside of CT Cube's control. The unavailability of such handsets, combined with the technical incompatibility of a network-based solution in the vast majority of its service area, leaves CT Cube with no reasonable alternative but to seek a waiver.

Grant of the requested waiver is consistent with both the public interest and the underlying purpose of the Commission's Phase II rules in Section 20.18. The Commission's extension of the original March 1, 2001 implementation date to October 1, 2001 balanced the need for an expeditious rollout of Phase II services with the Commission's recognition that Phase II chip manufacturers such as Qualcomm had been experiencing delays, making compliance by the original deadline infeasible.[29] In setting the October 1 deadline, the FCC relied on the anticipated availability of the necessary equipment. As discussed herein, it is now clear that the

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[28] 47 C.F.R. § 1.925(b)(3).
[29] *Fourth MO&O* at ¶ 33.

handset equipment required to meet the October 1 deadline will not be available in time to allow CT Cube to meet this deadline. A temporary limited waiver of Section 20.18(g)(1)(i) is entirely consistent with the underlying purpose of the establishment of the October 1 deadline.

III. Schedule for Compliance

CT Cube requests a waiver, based upon the following timetable, of the FCC's October 1, 2001 deadline to "begin selling and activating" handsets and the Commission's related benchmark deadlines contained in Section 20.18(g). CT Cube's schedule is based on its experiences and contacts with vendors and publicly available information regarding handset availability. Based upon its own inquiries and confirmed in other carriers' waiver requests,[30] CT Cube believes the earliest and most optimistic date by which the large, nationwide carriers will see delivery of ALI-capable handsets is by December 2001.[31] Accounting for expected delays before such handsets reach a small carrier such as CT Cube and necessary testing,[32] CT Cube does not expect to be capable of selling and activating handsets prior to October 2002. While CT Cube hopes to begin selling and activating handsets prior to October 2002, CT Cube has no firm basis to believe that it will have the necessary handsets prior to this date. Accordingly, CT Cube requests that the deadline for CT Cube to begin selling and activating handsets be extended to October 1, 2002, the 25 percent benchmark be extended until December 31, 2002, that the 50 percent benchmark be extended until June 30, 2003, and that the 100 percent benchmark be

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[30] *See, e.g.,* Qwest Petition for Waiver at 15.

[31] As discussed above, the Airbiquity solution that works only with the Nokia phones is not a reasonable alternative for a TDMA carrier.

[32] CT Cube notes that testing typically takes approximately six weeks. Without the necessary time to fully test a solution, or without the proper technology for CT Cube's rural region, CT Cube's Phase II solution could fail, undermining public confidence in wireless E911. CT Cube does not want to offer the sense of security that the offering of Phase II location technology will ultimately provide until it has a proven system. A rushed and inoperable system will not benefit the public.

extended until December 31, 2003. CT Cube also requests that the 95 percent penetration rate deadline be extended until December 31, 2006.

IV. Conclusion

Based on the foregoing, CT Cube respectfully requests that the Commission grant CT Cube a temporary waiver of Sections 20.18(e) and (g) of its rules and permit CT Cube to implement the handset component of its Phase II solution based on the schedule set forth herein.

Respectfully submitted,

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Dated: September 19, 2001

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DECLARATION OF MIKE HIGGINS

I, Mike Higgins, do hereby declare under penalty of perjury the following:

1. I am the General Manager of CT Cube, Inc. d/b/a West Central Wireless.

2. I have read the foregoing "Petition for Limited Waiver of Sections 20.18(e) and (g) of the Commission's Rules." I have personal knowledge of the facts set forth therein, and believe them to be true and correct.

Mike Higgins

9/18/01

Date

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CERTIFICATE OF SERVICE

I, Joy Barksdale, do hereby certify that on this 19th day of September 2001, a copy of the foregoing Petition for Limited Waiver of Sections 20.18(e) and (g) of the Commission's Rules was served by hand delivery to the following parties:

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